



not always, nor very often, the legitimate warning of physical exhaustion. There is a common and comprehensive name for it, which will at once occur to the reader, and it arises solely from lack of interest in the work in hand.

Any one can test this. What a comfort it has been to us many a time to discover that our indisposition and feeling of lassitude was nothing more than the pangs of downright laziness! Start out to any job of which you are physically capable, and pursue it with that intent feeling we impart to the pursuit of a hobby. You'll go at it from daybreak till sunset, and be sorry that the shortage of daylight will not allow you to continue.

How far will a man walk (or run) in twenty-four hours if the prize at the end of the trip is something he is eager to obtain—say a quarter section, worth thirty dollars an acre? You'll not find that man "out of spirits" at any point short of his objective; but let it be the cultivation of a thirty-acre field of rather difficult gumbo, how is it he is so much the victim of perspiration, and so sparsely influenced by inspiration?

COVERING THE HOME STRETCH.

We are all more or less guilty of turning back for want of grit. Most lives are filled with half-finished tasks, which were begun with enthusiasm, but which have been dropped because the enthusiastic beginners did not have enough grit to carry them to a conclusion. How easy it is to start a thing when the mind is aglow with zeal, before disappointment has dulled ambition!

It does not take much ability to begin a thing, and we cannot estimate a man by the number of things he commences. We do not judge him by his speed at the beginning of the race, it is the home stretch that counts. The test of character is in a man's ability to persist in what he undertakes until he adds the finishing stroke. He must have persistence and grit enough to carry him through the line at the last heat.

The ability to hold on is one of the rarest of human virtues. There are plenty who will go with the crowd, and who will work hard as long as they can hear the music, but when a man is practically left alone it takes a very different

order of ability to persist. This requires real grit and stamina.

THE FATEFUL MOMENT.

Look out for that moment when you are tempted to turn back, to relax, to make up your mind that it's "really not worth while going on." That is the moment that makes a man or breaks him. All the great things of history, all that is of real account in your own life, gentle reader, have been accomplished after the great majority of men would have turned back.

Now the greatest safeguard against "funking" is to keep young. We are young, and if we live many more years we will still be young, for we intend to measure the days more by the strengthening of our souls than the weakness of our bodies. "Senile decay!" Who can think of it who will surround himself with the

financial swim. More than that, if the present brilliant promises are fulfilled, the farmer of the future will actually transform the face of the earth, imparting to much of the soil several times its present degree of fertility.

The scientific discoveries of the past few years relating to the whole field of agriculture have been truly marvellous. They may be divided into two principal classes—those concerned with the fertilization of the soil and those that deal with the unfolding of hidden life tendencies in plants.

With regard to the soil, there is a curious relation between it and the atmosphere to be taken into account. Four-fifths of the gaseous mixture that we breathe and call air consists of nitrogen, and nitrogen is as mother's milk to plant life. At first sight, then, it would seem as if all that plants

for instance, tends to exhaust the soil.

The grain draws the nitrates from the ground, and, having ripened, is carted away. This is like taking gold from a hoard to which no additions are made. The soil, like the growing wheat, cannot absorb pure nitrogen direct from the air. When the ripened grain is carried away the soil is left sterile, and another crop can be raised upon it only after it has been artificially fertilized with manures, to supply the missing nitrates.

There is, however, another way to fertilize an exhausted soil, and in this method lay hidden the secret, whose discovery has opened up so splendid a vision of the agriculture of the future. It is known under the homely name of "rotation of crops."

From time immemorial farmers have known that when successive crops of grain have completely exhausted the soil of a particular field, a crop of clover will not only grow upon that same land, but will even fertilize it, and leave it richer, so that afterward it will support grain again.

Now, the puzzling question had always been: "How in the world does the clover manage to do what the grain cannot do—to take its supply of nitrogen not from the soil (for when exhausted it has none), but from the air?"

The finding of the answer to that question was the keynote of the now famous experiments of our Departments of Agriculture in the "inoculation of the ground."

The story of the inoculation of the soil has in it all the piquancy of the most engrossing dime novel. It is simply one of Nature's little secrets laid bare—her plan for keeping the soil young. To know and to make use of it will lead to a mine of wealth greater by far than the greatest "gold deposit" in the bowels of the earth.

And the digging need not be any deeper than that recommended by the old quaker to his son: "My son, says he, 'I give thee now a valuable parcel of land; I assure thee I have found a considerable quantity of gold by digging there; thee mayst do the same. But thee must carefully observe this, never to dig more than plow-deep.'"



laughter of the children; who can find an interest in the everlasting "why?" of these great inquisitors; who can take an ingenuous delight in the perennial freshness and novelty the young mind discovers in the most hoary institution that comes within its horizon?

So we have three of the greatest possessions that flesh can fall heir to. We have youth, we have the spring time, and we have the greatest business and the most honorable "profession" on earth—agriculture!

WHAT SCIENCE IS DOING.

The ideal farmer of to-day and of the future is to be a man of science.

Hereafter scientific farming will cease to be regarded as it was in the days of Horace Greely as a sure means of getting rid of a bank account, and will be looked upon as the only way for a cultivator of the land to get into the

had to do was to draw in nitrogen from the air.

NITRATES THE FOOD OF PLANTS.

But this, except in a case hereafter to be described, they cannot do. Great fields of wheat and rye and oats, waving in the summer wind, and bathed with nitrogen from bearded head to base of stem, would perish through lack of that very element in their composition, but for the fact that the roots of the grain are able to draw nitrogen from the soil, not in its pure state, but in the form of soluble compounds called nitrates.

In order, therefore, that the life of the grain may be maintained, nitrogen must pass from the air to the soil, and there be formed into nitrates. If this were a continuous process, if the ground could simply drink in nitrogen from the atmosphere all would go well. But, as every practical farmer knows, a crop of wheat,